

REMARKS

Claim 3 has been amended herewith. The phrase “said non-foamed surface layer” has been inserted before the phrase “formed of” on line 2 of the claim. Also, the phrase “said resin sheet” has been inserted before the term “further” on line 8.

New claims 5-7 have been added. Support for claims 5-7 can be found in canceled claims 1, 2 and 4.

Response to the Rejection under 35 U.S.C. § 112, second paragraph

Claim 3 has been rejected under 35 U.S.C. 112, second paragraph, as allegedly being indefinite.

It is asserted that in claim 3, line 2, the use of the phrase “formed of” is vague and indefinite. Specifically, it is asserted that it is unclear whether “formed of” refers to “foamed polyolefin resin sheet,” “non-foamed surface layer,” or something else. It is further asserted that at line 8, the phrase “further comprising” is vague and indefinite, because it is unclear to which structural element this phrase applies.

Applicants have amended claim 3 to recite the phrase “said non-foamed surface layer” before the phrase “formed of” on line 2 of the claim, and the phrase “said resin sheet” before the term “further comprising” on line 8. Thus, it should be sufficiently clear that “formed of” and “further comprising” refer to the non-foamed surface layer and the resin sheet, respectively.

Accordingly, Applicants respectfully request that the indefiniteness rejection be reconsidered and withdrawn.

Response to the Rejection under 35 U.S.C. § 103

Claim 3 has been rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,116,881 to Park et al. ("Park") in view of WO 94/07930 ("WO '930").

Park is relied upon as teaching a thermoformable, rigid or seed-rigid polypropylene foam sheet comprising at least one polypropylene foam layer and one functional layer.

WO '930 is relied upon to teach that long-chain branched polyolefin resins are associated with superior processability characteristics of polymer melts and superior mechanical characteristics of the resulting solid polymers. WO '930 briefly discusses the benefits and uses of polyolefins on pages 35-38.

It is asserted that it would have been obvious to one skilled in the art to substitute the non-foamed tie layer (or intermediate layer) of Park with a long-chain branched polyolefin layer, motivated by the desire to obtain improved melt processability and mechanical properties, as taught by WO '930.

Applicants respectfully submit that Park and WO '930 fail to teach or suggest the claimed invention. Applicants specifically submit that neither Park nor WO '930 teach or suggest laminating a foam sheet with another component, such as a substrate.

The present invention is directed to a foamed polyolefin resin sheet comprising a foamed polyolefin resin layer, a non-foamed surface layer, which is formed of a spectrally-characterized thermoplastic resin composition, and a non-foamed layer formed of a long-chain branched polyolefin resin as an intermediate layer. The spectral character of the thermoplastic resin

composition is defined by the ration $A1/A2$, wherein $A1$ is a maximum absorbance of the infrared absorption spectrum of the thermoplastic resin composition within an infrared ray wave number region of from 1700 to 1750 cm^{-1} and $A2$ is a maximum absorbance of the infrared absorption spectrum of the thermoplastic resin composition within an infrared ray wave number region of from 1455 to 1465 cm^{-1} .

Park does not teach laminating a foam sheet with another object, i.e., a substrate. Park discloses only an embodiment in which the foam sheet itself is thermoformed without being laminated by another component.

Furthermore, Park does not teach or suggest a non-foamed surface layer comprising a spectrally-characterized thermoplastic resin composition as recited in claim 3.

WO '930 also fails to teach or suggest laminating a foam sheet with another component such as a substrate, or employing a non-foamed surface layer comprising the claimed spectrally-characterized thermoplastic resin composition.

Thus, the Examiner has not established a prima facie obviousness rejection because Park and WO '930 do not teach or suggest each and every element recited in the claims.

Accordingly, Applicants respectfully request that the 35 U.S.C. § 103 rejection be reconsidered and withdrawn.

With respect to the newly-added claims, Applicants submit that the prior art of record fails to teach, suggest or render obvious claims 5-7. Applicants specifically submit that the prior art does not teach or suggest foamed polyolefin resin sheet comprising a non-foamed surface layer comprising the claimed spectrally-characterized thermoplastic resin composition.

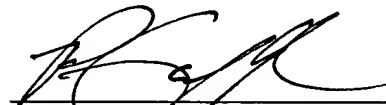
Accordingly, Applicants respectfully request that claims 5-7 be allowed.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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